FORM PTO-1390 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371	ATTORNEY'S DOCKET NUMBER: B0250 10/009794 U.S. APPL'N NO. (Known, See 37 CFR 1.5)

INTERNATIONAL APPLICATION NO : PCT/FR99/01447	INTERNATIONAL FILING DATE: 16 JUNE 1999	PRIORITY DATE CLAIMED:

TITLE OF INVENTION: DEVICE AND ITS PROCESS FOR AUTOMATICALLY MANAGING THE FLOW OF DIGITAL DATA FROM A HOST BETWEEN A COMMON INTERFACE AND ITS ASSOCIATED MODULES

APPLICANT(S) FOR DO/EO/US: Jean Yves LE ROUX and Philippe GUENEBAUD

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. [X] This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.

2. [ ] This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.

3. [X] This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).

4. [X] A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.

5. [X] A copy of the International Application as filed (35 U.S.C. 371(c)(2))

    a. [X] is transmitted herewith (required only if not transmitted by the International Bureau).

    b. [X] has been transmitted by the International Bureau. (see attached copy of PCT/IB/308)

    c. [ ] is not required, as the application was filed in the United States Receiving Office (RO/US).

6. [X] A translation of the International Application into English (35 U.S.C. 371(c)(2)).

7. [ ] Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).

    a. [ ] are transmitted herewith (required only if not transmitted by the International Bureau).

    b. [ ] have been transmitted by the International Bureau.

    c. [ ] have not been made; however, the time limit for making such amendments has NOT expired.

    d. [ ] have not been made and will not be made.

8. [ ] A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).

9. [X] An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).

10. [ ] A translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Item 11. to 16. below concern document(s) or information included:

11. [X] An Information Disclosure Statement under 37 CFR 1.97 and 1.98.

12. [X] An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.

13. [X] A **FIRST** preliminary amendment.

    [ ] A **SECOND** or **SUBSEQUENT** preliminary amendment.

14. [ ] A substitute specification.

15. [ ] A change of power of attorney and/or address letter.

16. [X] Other items or information:

         International Search Report   PCT/IB/308
         PCT/IPEA/409   Abstract of the Disclosure on a Separate Sheet
         Application Data Sheet

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) **10/009794**	INTERNATIONAL APPLICATION NO. PCT/FR99/01447	ATTORNEY'S DOCKET NO. B0250

	CALCULATIONS PTO USE ONLY

17. [X] The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):
Neither international preliminary examination fee (37 CFR1.482) nor international search fee (37 CFR1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO . . . . $ 1,040.00
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO . . . . $ 890.00
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO . . . . $ 740.00
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) . . . . $ 710.00
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) . . . . $ 100.00

		ENTER APPROPRIATE BASIC FEE AMOUNT =		$	890.00	
Surcharge of $130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)).				$		
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	$		
Total claims	3 - 20 =	0	X $18.00	$		
Independent claims	1 - 3 =	0	X $84.00	$		
MULTIPLE DEPENDENT CLAIMS(S) (if applicable)			+ $280.00	$		
		TOTAL OF ABOVE CALCULATIONS =		$	890.00	
Reduction of ½ , if applicant is entitled to Small Entity status under 37 CFR 1.27.			+	$	445.00	
			SUBTOTAL =	$	445.00	
Processing fee of $130 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR1.492(f)).				$		
			TOTAL NATIONAL FEE =	$	445.00	
Fee for recording the enclosed assignment (37 CFR1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). $40.00 per property			+	$	40.00	
			TOTAL FEES ENCLOSED =	$	485.00	

	Amount to be refunded:	
	charged:	

a. [X] A check in the amount of $ **485.00** to cover the above fees is enclosed.

b. [ ] Please charge my Deposit Account No. **25-0120** in the amount of $ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required by 37 CFR 1.16 and 1.17, or credit any overpayment to Deposit Account No. **25-0120**. A duplicate copy of this sheet is enclosed.

SEND ALL CORRESPONDENCE TO:

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December 17, 2001

By _Benoît Castel_
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Y&T 99

10/009794

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Jean Yves LE ROUX et al.

Serial No. (unknown)

Filed herewith

DEVICE AND ITS PROCESS FOR
AUTOMATICALLY MANAGING THE
FLOW OF DIGITAL DATA FROM
A HOST BETWEEN A COMMON
INTERFACE AND ITS ASSOCIATED
MODULES

PRELIMINARY AMENDMENT

Commissioner for Patents

Washington, D.C. 20231

Sir:

Prior to the first Official Action and calculation

of the filing fee, please substitute Claims 1-3 as originally

filed, with Claims 1-3 as filed in the Article 34 amendment of

June 13, 2001. The pages containing Claims 1-3 are marked

"MODIFIED SHEET" and are attached hereto.

R E M A R K S

The above changes in the claims merely place this

Jean Yves LE ROUX et al.

national phase application in the same condition as it was

during Chapter II of the international phase.

Respectfully submitted,

YOUNG & THOMPSON

By _____
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December 17, 2001

5

"Device and its process for automatically managing the flow of digital data from a host between a common interface and its associated modules"

10

The invention has for its object a device automatically to manage the switching of the flow of digital data from a host to a common interface using at

15   least two connectors for modules.

The modules can be of the PCCARD or DVB-CI type.

The host can be for example a decoder, a digital television, a card contained in a computer, each host being adapted to be connected to one or several networks

20   (satellite, cable or hertzian).

The invention has for its object a device and its process automatically to control the flow and to recognize the level of priority of a module inserted in any manner in

one of the connectors of an electronic apparatus called a host.

A universal receiver or host using two or more modules does not permit using in the same way a module inserted in slot A or connector A and a module B in slot or connector B. Thus, the positioning of the connectors A and B corresponding to the two modules A and B are not interchangeable. It is necessary, according to the state of the art, that the module A be emplaced in the connector A and that the module B be emplaced in the connector B.

The flow from the demodulator between the first module A if it is present or else a controlled digital switch, will permit the flow to remain in the decoder by means serving as a shunt or branch circuit. If the first module A is in place, the flow between the second module B if it is present, or else in the same manner if there will be a controlled digital switch which will permit the flow to remain in the decoder by a shunt or branch circuit. After having passed to the module B if the latter is in place in the connector B, the flow enters the demultiplexer.

On the other hand, if by error, the user has wrongly inserted these modules and the module B has been emplaced in connector A, the apparatus can be incapable of functioning.

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The invention thus has for its object to solve this problem and to permit any user to use the slots or connectors in any way for all the modules that the user wishes to use and without having to give thought to what is

5   the order of introduction of the modules and what is their exact positioning.

To this end, the device according to the invention is of the type using, in a host, a demodulator, a demultiplexer, a pilot for the common interface, a

10 processor, at least two connectors for two modules, automatic recognition means of the modules once they are inserted in each connector, and switching control means which will interchange the movement of the flows within the host and the modules.

15 Similarly between the demodulator and the demultiplexer and the processor is inserted an electric component (ASIC) designated 6, or any other system which automatically recognizes each module inserted into its connector and permits interchanging the movement of the

20 flow.

The accompanying drawings are given by way of indicative example and are not limiting. They represent one embodiment according to the invention. They permit easy comprehension of the invention.

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Figure 1 is a diagram showing the state of the art in a host of the present type using two modules.

Figure 2 is a diagram showing the use of the device and process according to the invention with two modules in

5　place in a host according to the invention.

According to the state of the art shown in Figure 1, the host 3 using two modules, module A and module B, the module A being emplaced in the connector A and the module B being emplaced in the connector B, it is evident, when

10　considering the movement of the flow 1, that when a module has not been emplaced in its proper connector, the electronic apparatus cannot function. Thus the flow 1 from the demodulator enters the first module A which is present, then it enters the second module B if it is present and

15　will enter the demultiplexer 4. Of course, if one of the modules is not present, a control digital switch will permit the flow to remain in the decoder by branch circuit or shunt means. The flow will thus enter the second module if it is present and then will enter the demultiplexer 4.

20　According to the host shown in Figure 1, the use for example of a module serving as a tuner (receiver for frequency modulation) is not possible in the position B or connector if the latter is not dedicated explicitly to an emplacement or a module connector serving as a tuner.

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Thus, the flow from the tuner module cannot be decoded if needed in the module A. The introduction of the module A and B, in the connectors A and B, must therefore correspond to the nature of the modules (access control, tuner, etc.). This choice thus requires moreover of the user a high level of technical knowledge.

The embodiment shown in Figure 2 uses, in the host 5, an electronic component ASIC designated 6 or any other system which permits automatic recognition of each module A and/or B and will permit, in association with the electronic multiplexer, to interchange the movement of the flow 7 and 8 within the host and modules A and B, with a pilot for the common interface 11. Thus the flow from the demodulator 12 will enter the module A, the flow from the module A will be immediately and automatically identified in the electronic component (ASIC) or any other system. Similarly, the flow from module B will be immediately and automatically identified in the electronic component (ASIC) or any other system which, if necessary, interchanges the movement of the flow.

The assembly of the whole of the flow can return to the multiplexer 13. The electronic component (ASIC) or any other system 6 will thus automatically identify in the host the modules no matter what their position in the connectors

A or B.   The electronic component (ASIC) or any other

system 6 and the pilot for the common interface will

determine an order of priority of the flow within the two

modules A and B, and this whether the latter are disposed

5   in connector A or in connector B.

The connectors are hence indistinguishable and

interchangeable as to the modules.

As a practical matter, the user no longer need take

care when inserting modules in their connector.

10

REFERENCES

1. FLOW

2. DEMODULATOR

3. HOST

4. DEMULTIPLEXER

5. HOST

6. ELECTRONIC COMPONENT (ASIC or any other system)

7. MOVEMENT OF THE FLOW

8. MOVEMENT OF THE FLOW

10. PROCESSOR

11. PILOT FOR THE COMMON INTERFACE

12. DEMODULATOR

13. DEMULTIPLEXER

A   MODULE A, CONNECTOR A

B   MODULE B, CONNECTOR B

CLAIMS

1.   Device for automatically managing the flow of
digital data from a host constituted by a decoder for the
5   reception of digital television between a common interface
and its associated modules, of the type using, in a host, a
demodulator (12), a multiplexer (13), a pilot for the
common interface (11), a processor (10), at least two
connectors (A, B) for two modules (A, B), characterized by
10   the fact

that it comprises automatic recognition means of the
modules once they are inserted in each connector (A-B) and
means for controlling the switching to interchange the
movements of the flow (1) within the host (3) and the
15   modules (A-B).

2.   Device according to claim 1, characterized by the
fact

that between the demodulator (12) and the
20   demultiplexer (13) and the processor (10) is inserted an
electronic component (ASIC) which automatically recognizes
each module (A-B) inserted in its connector (A-B) and
permits interchanging the movement of the flow (1).

MODIFIED SHEET

3.   Process for using the device according to claim 1, to manage automatically the flows of digital data from a host constituted by a decoder for the reception of digital television between a common interface and its associated
5   modules, characterized by the fact

that it uses automatic recognition means for the modules once they are inserted in each connector (A-B) and switching control means which interchange the movements of the flow (1) within the host (3) and the modules (A-B).
10

MODIFIED SHEET

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FIG.1

MODULE A — A	MODULE B — B	DEMULTIPLEXER — 4

FLOW

3

1

DEMODULATOR — 2

PROCESSOR

PILOT FOR COMMON INTERFACE

FIG.2
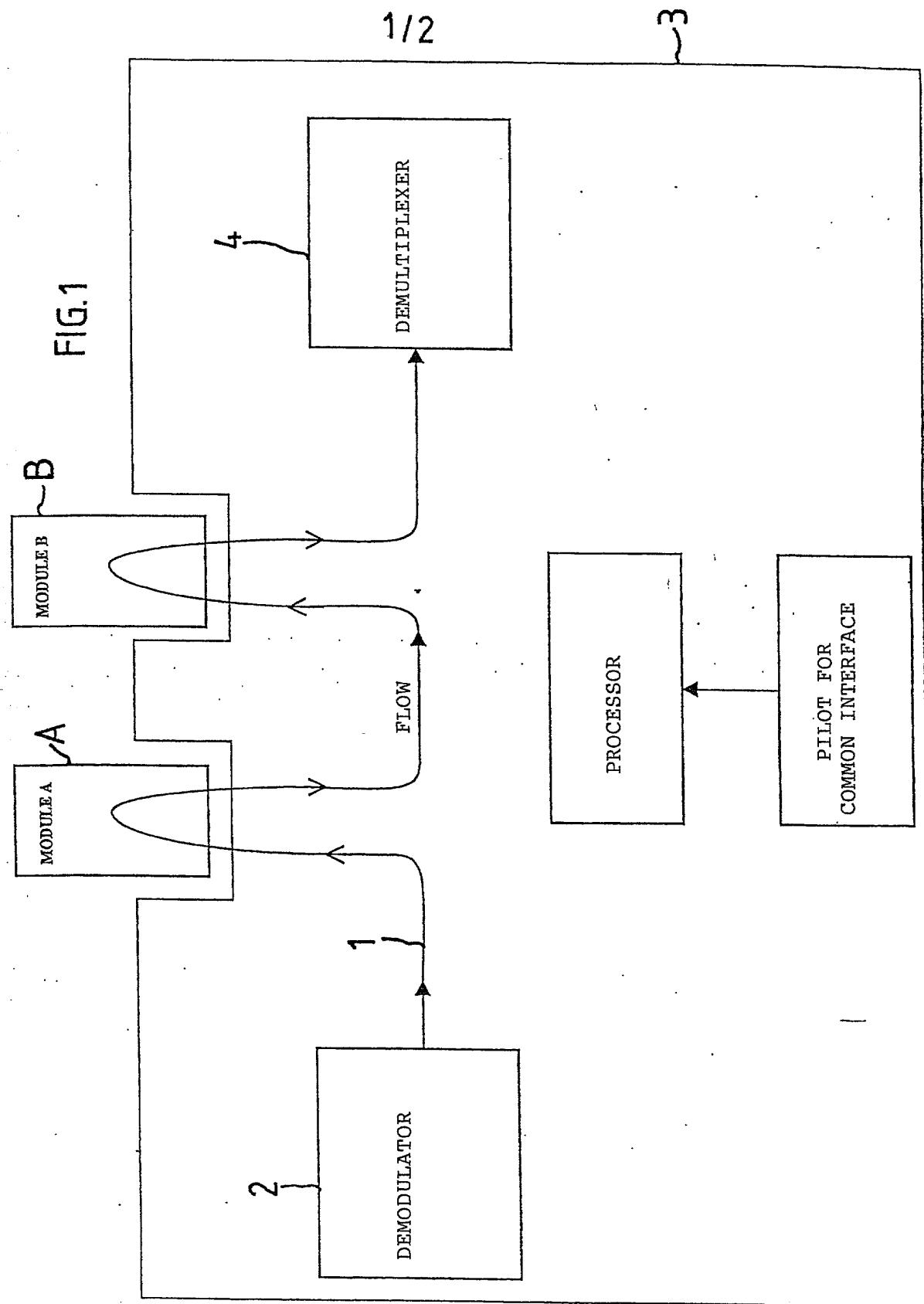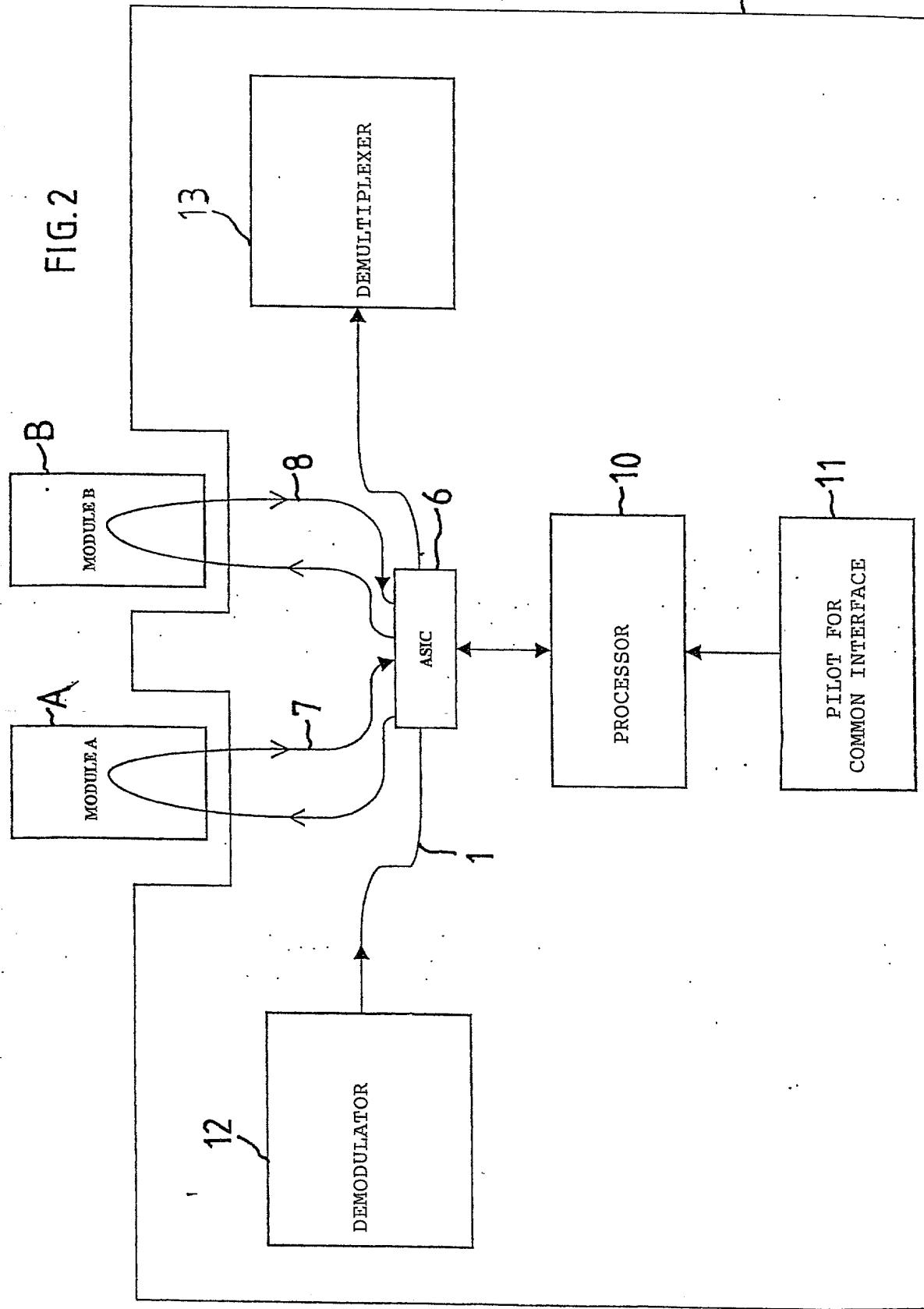
COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

DEVICE AND METHOD FOR MANAGING AUTOMATICALLY THE FLOW OF DIGITAL DATA OF A HOST BETWEEN A COMMON INTERFACE AND ITS ASSOCIATED MODULES ,

the specification of which: *(check one)*

REGULAR OR DESIGN APPLICATION

[ ]   is attached hereto.

[ ]   was filed on as application Serial No. and was amended on (if applicable).

PCT FILED APPLICATION ENTERING NATIONAL STAGE

[X]   was described and claimed in International application No. Pct:fr99/01447 filed on 16 June 1999 and as amended on (if any).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, 01.56.

PRIORITY CLAIM

I hereby claim foreign priority benefits under 35 USC 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

PRIOR FOREIGN APPLICATION(S)

Country	Application Number	Date of Filing (day, month, year)	Priority Claimed
France	98 03029	12.03.1998	NO

(Complete this part only if this is a continuing application.)

I hereby claim the benefit under 35 USC 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 USC 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations 01.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status--patented, pending, abandoned)

POWER OF ATTORNEY

undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from ___
.INET HAUTIER____ as to any action to be taken in the Patent and Trademark Office regarding this application
out direct communication between the U.S. attorney or agent and the undersigned. In the event of a change in the
ons from whom instructions may be taken, the U.S. attorney or agent named herein will be so notified by the undersigned.

named inventor, I hereby appoint the following attorney(s) to prosecute this application and transact
)usiness in the Patent and Trademark Office connected therewith:
)bert J.PATCH, Reg N° 17355, Andrew J.PATCH, Reg N°32925, Robert F.HARGEST,
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:reby declare that all statements made herein of my own knowledge are true and that all statements
de on information and belief are believed to be true; and further that these statements were made
h the knowledge that willful false statements and the like so made are punishable by fine or
)risonment, or both under Section 1001 of Title 18 of the United States Code and that such willful
e statements may jeopardize the validity of the application or any patent issued thereon.

name of sole or first inventor: Jean Yves LE ROUX
(given name, family name)

entor's signature _____   Date 9 g . 3 .00

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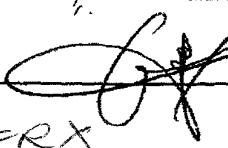
ventor's signature _____   Date 27-3-00

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ost Office Address:

ull name of third joint inventor, if any:
(given name, family name)

nventor's signature _____   Date _____

Residence: Citizenship:

Post Office Address: